

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-28 are pending in this application.

Receipt of Priority Document:

The Office Action indicates acknowledgment of Applicant's claim for foreign priority under 35 U.S.C. §119. The Office Action then indicates that only "Some" of the certified copies of the priority document have been received via the PCT. However, the present application claims priority under 35 U.S.C. §119 from only one application (GB 9817834.6). Applicant therefore respectfully requests that the next Office Action acknowledge receipt of "All" certified copies of the (lone) priority document.

Claim Objection:

Claim 21 was objected to under 37 CFR 1.75(c) as allegedly being in improper form because of its multiple dependency. By this Amendment, claim 21 is no longer written in multiple dependent form. Applicant therefore respectfully requests that the objection to claim 21 be withdrawn.

Rejections Under 35 U.S.C. §103:

Claims 1, 4-5, 7-14, 16-21, 24 and 26-28 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Yerazunis et al (U.S. '382, hereinafter "Yerazunis") in view of Honda (U.S. '563). Applicant respectfully traverses this rejection.

In order to establish a *prima facie* case of obviousness, all of the claimed limitations must be taught or suggested by the prior art and there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings.

The combination of Yerazunis and Honda fails to teach or suggest all of the claimed limitations. For example, the combination fails to teach or suggest “wherein the client is arranged to obtain information from said server means about the status of the adjacent zone only when the likelihood of the avatar moving within the predetermined range of the boundary of said adjacent zone is above a threshold,” as required by independent claim 1 and its dependents. Similar comments apply to independent claim 24 and its dependents. The combination also fails to teach or suggest “wherein said client is arranged to communicate with the one or more servers to obtain information on the status of one or more further zones in the virtual environment when the likelihood of the avatar moving within a predetermined range of the boundary of said one or more further zones is above a threshold,” as required by independent claim 21 and its dependents.

Section 6 (page 3) of the Office Action apparently admits that Yerazunis fails to teach the above claimed features. Applicant submits that Honda fails to remedy the admitted deficiencies of Yerazunis. In particular, Figs. 18-19 and col. 19, line 55 to col. 20, line 29 (specifically identified in the Office Action) of

Honda fail to remedy the above admitted deficiencies of Yerazunis. Figs. 18 and 19 disclose a billboard 113 which is activated to display a predetermined advertisement when an avatar F comes within a predetermined range of the billboard 113. When the distance between the avatar F and the billboard 113 becomes greater than a preset level, billboard 113 is turned off. The preset level therefore defines a zone around the billboard 113. If the avatar F is within the zone, the billboard 113 is activated, and if the avatar F is not within that zone, the billboard 113 is not activated. There is no teaching or suggestion of estimating the likelihood of an avatar moving within a predetermined range of a boundary and providing information to the client about the status of an adjacent zone only when the likelihood of the avatar moving within the predetermined range of the boundary of the adjacent zone is above a threshold. That is, there is no assessment in Honda of the probability that the avatar will move within a predetermined range of the boundary of an adjacent zone.

Accordingly, even if the teachings of Honda and Yerazunis were combined as proposed by the Office Action, the combination would not have taught or suggested all of the claimed limitations. However fast and smooth the motion of the avatar F is toward the billboard 113, no information is retrieved from the server relating to that billboard until the avatar is actually within the predetermined range. Unlike the present invention, Honda's information for use when the avatar is within the predetermined zone is not obtained until the user is

actually within the zone. Accordingly, all of the difficulties described in connection with Fig. 3 (see page 7, line 14 to page 8, line 21 of the originally-filed specification) of the application would apply to Honda. Honda fails to remedy any of these problems.

Yerazunis makes no mention of the likelihood (i.e., the probability) of entering individual zones, or any mention of zoning at all. Again, even if Yerazunis and Honda were combined as proposed by the Office Action, the combination does not teach or suggest providing information about an adjacent zone in response to an estimation that the likelihood of an avatar representing an individual user entering that zone has reached a predetermined threshold. Through this feature, details of the adjacent zone can be obtained in advance of a user actually crossing the boundary. Accordingly, the present invention addresses disadvantages of systems (such as Honda) which fetch the initial state of entities in the new zone only at the point that the avatar becomes in or aware of that zone.

Independent claim 24 and its dependents require, *inter alia*, frequency data (i.e., probability) for categories of movement corresponding to potential movement of an avatar interval position within a predetermined range of a specified boundary. The combination of Honda and Yerazunis fails to teach or suggest this feature. While Honda may suggest some kind of boundary around the billboard, there is no mention of any frequency data in respect of approaching that boundary. Yerazunis merely discloses using data to predict future movement of

POWERS et al.
Application No. 09/743,898
August 24, 2004

individual avatars and makes no reference whatsoever of any boundaries in the space in which that avatar may move.

Accordingly, Applicant respectfully submits that claims 1, 4-5, 7-14, 16-21, 24 and 26-28 are not “obvious” under 35 U.S.C. §103 over Yerazunis and Honda and therefore respectfully requests that the rejection of these claims be withdrawn.

Claims 2, 6, 15 and 22 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Yerazunis in view of Honda and further in view of Leahy et al (U.S. ‘045, hereinafter “Leahy”). Claims 3, 23 and 25 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Yerazunis in view of Honda and further in view of Suzuki et al (EP ‘018, hereinafter “Suzuki”). Neither Leahy nor Suzuki remedies the above described deficiencies of Yerazunis and Honda with respect to the claimed invention. Applicant therefore respectfully requests that the above rejections under 35 U.S.C. §103 be withdrawn.

POWERS et al.
Application No. 09/743,898
August 24, 2004

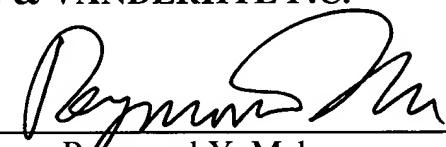
Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

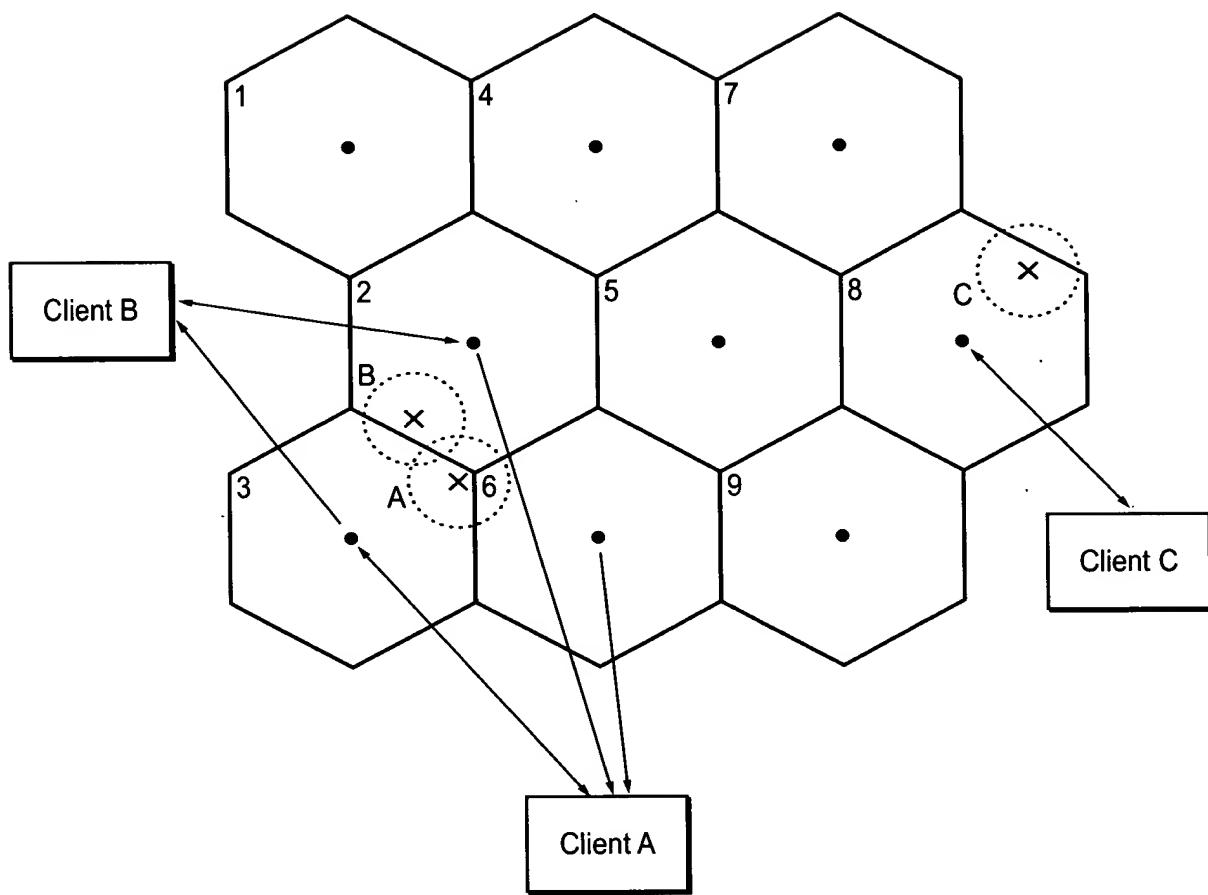
By: _____


Raymond Y. Mah
Reg. No. 41,426

RYM:sl
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4044
Facsimile: (703) 816-4100



1/19



- representing a Multi-cast Address

Geographic Area in virtual environment

Avatar
Avatar Awareness

Fig. 1



2/19

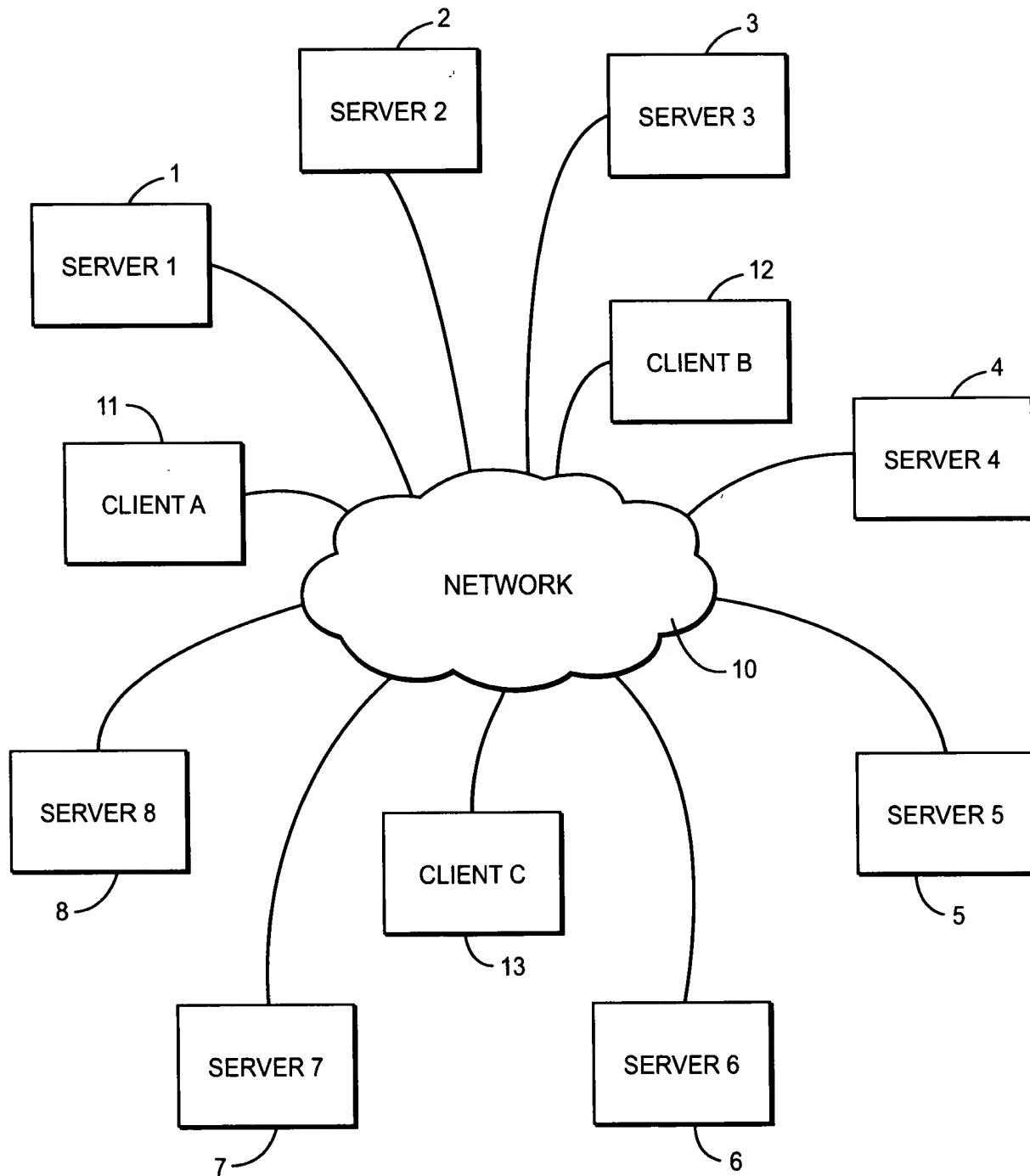
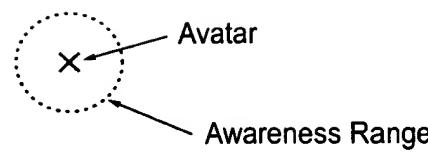
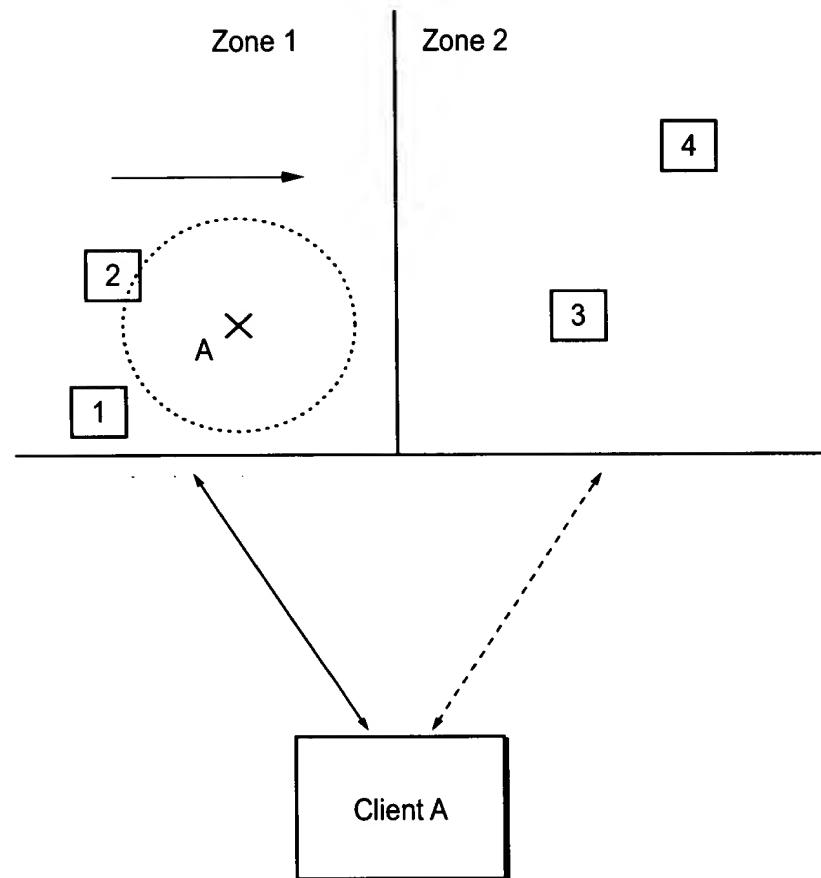


Fig. 2



3/19



Entity X

Fig. 3



4/19

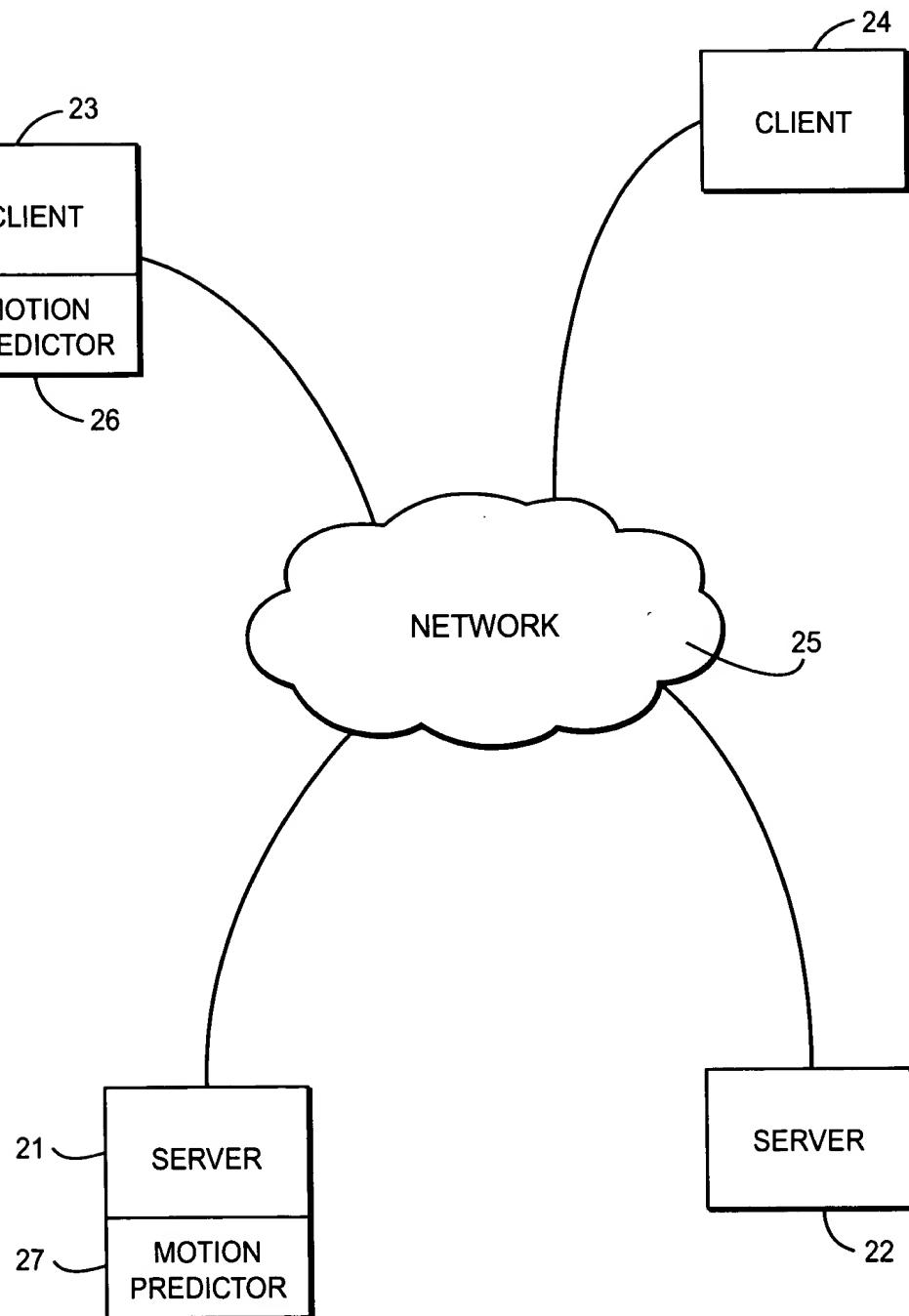
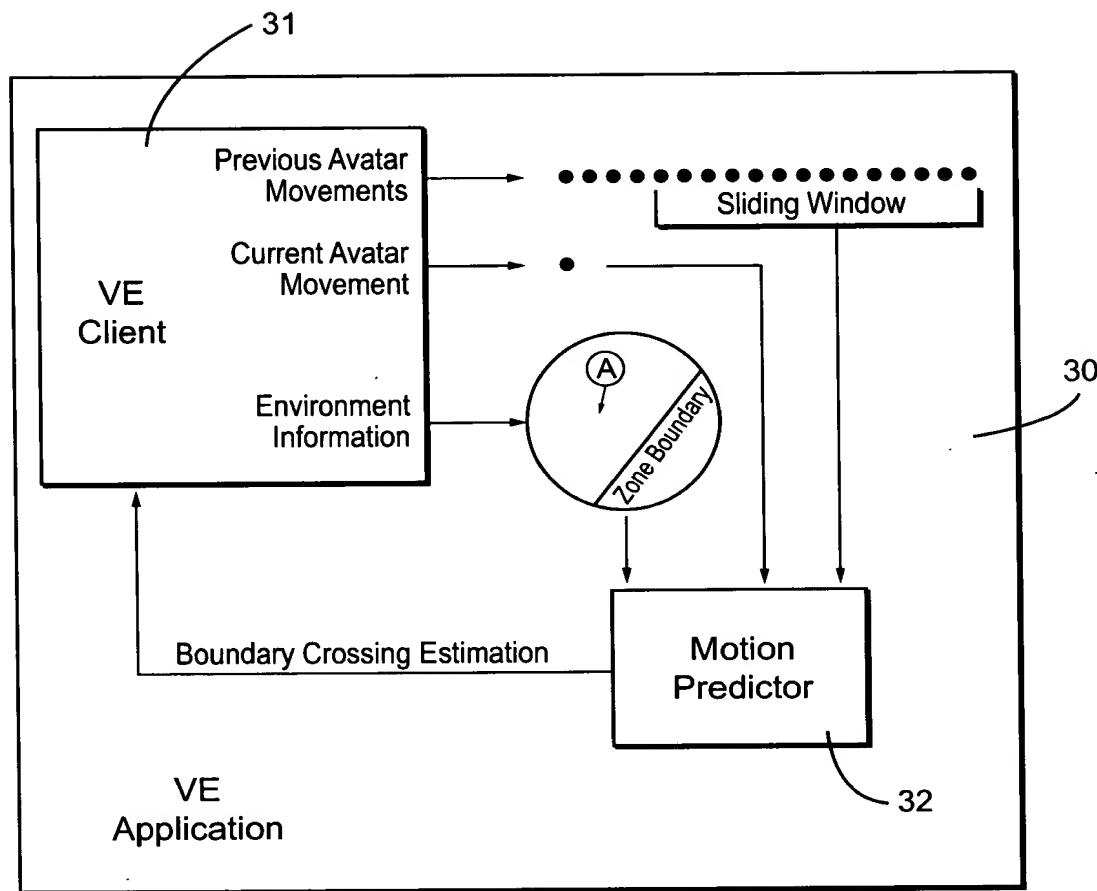


Fig. 4.



5/19



- Avatar Movement
- Sample
e.g. Position, Velocity, etc.

Fig. 5



6/19

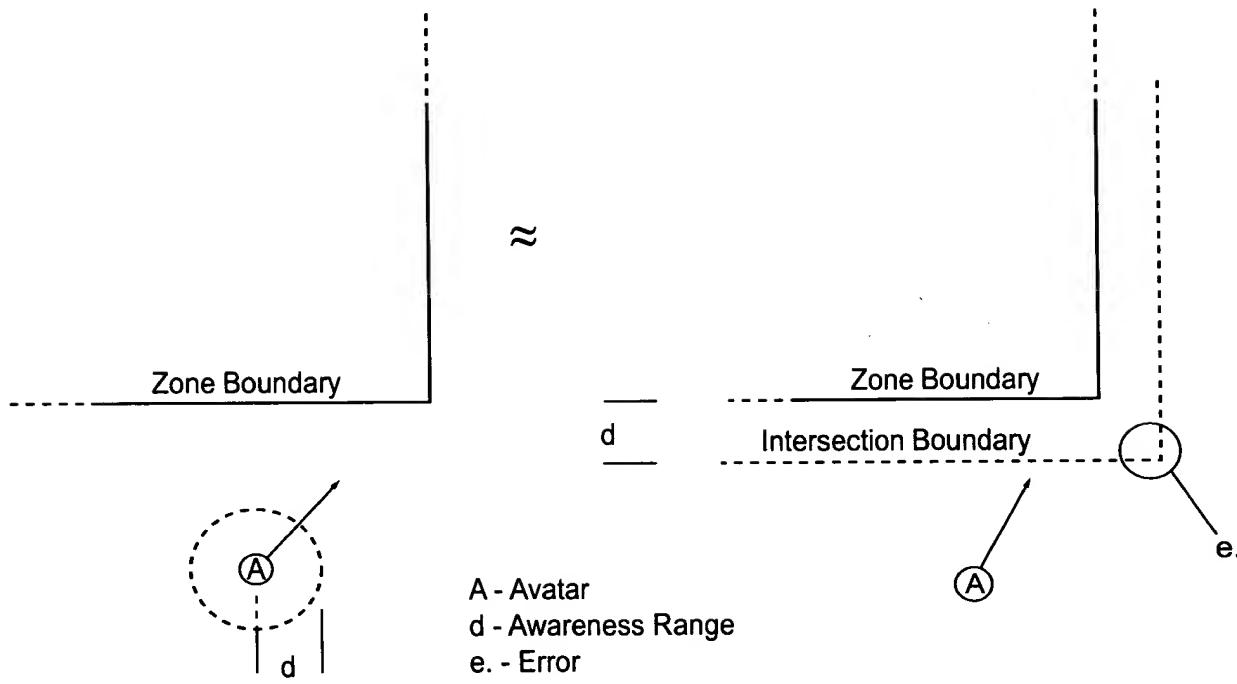


Fig. 6



7/19

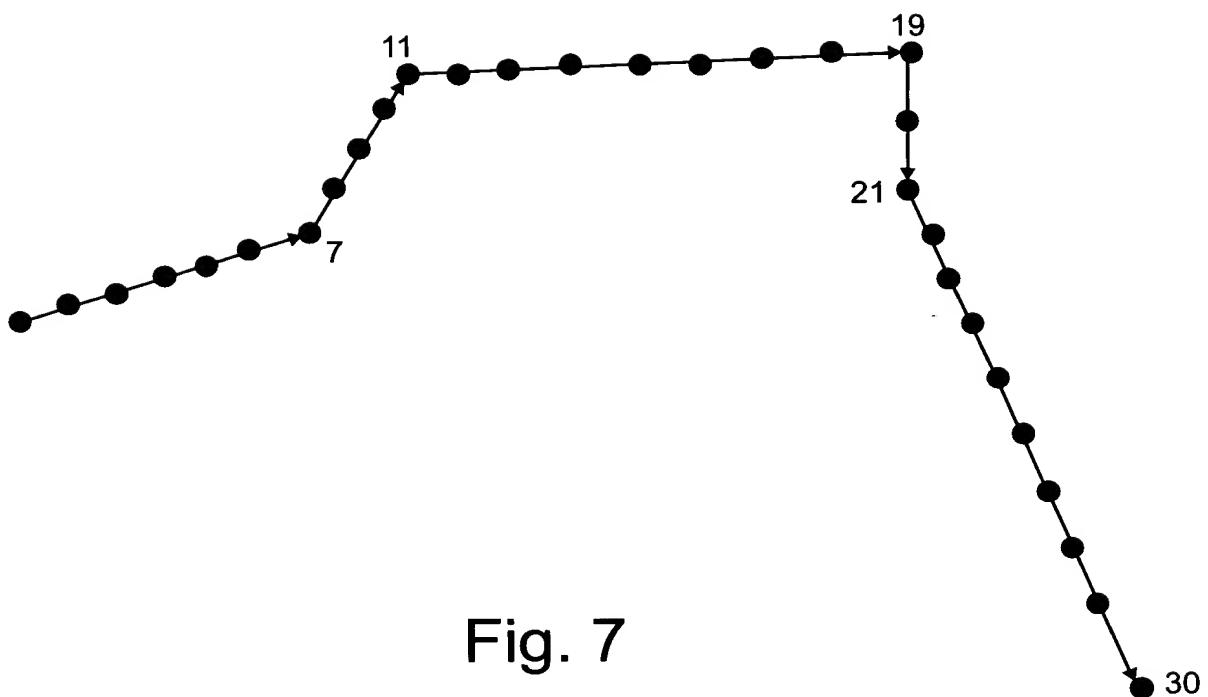
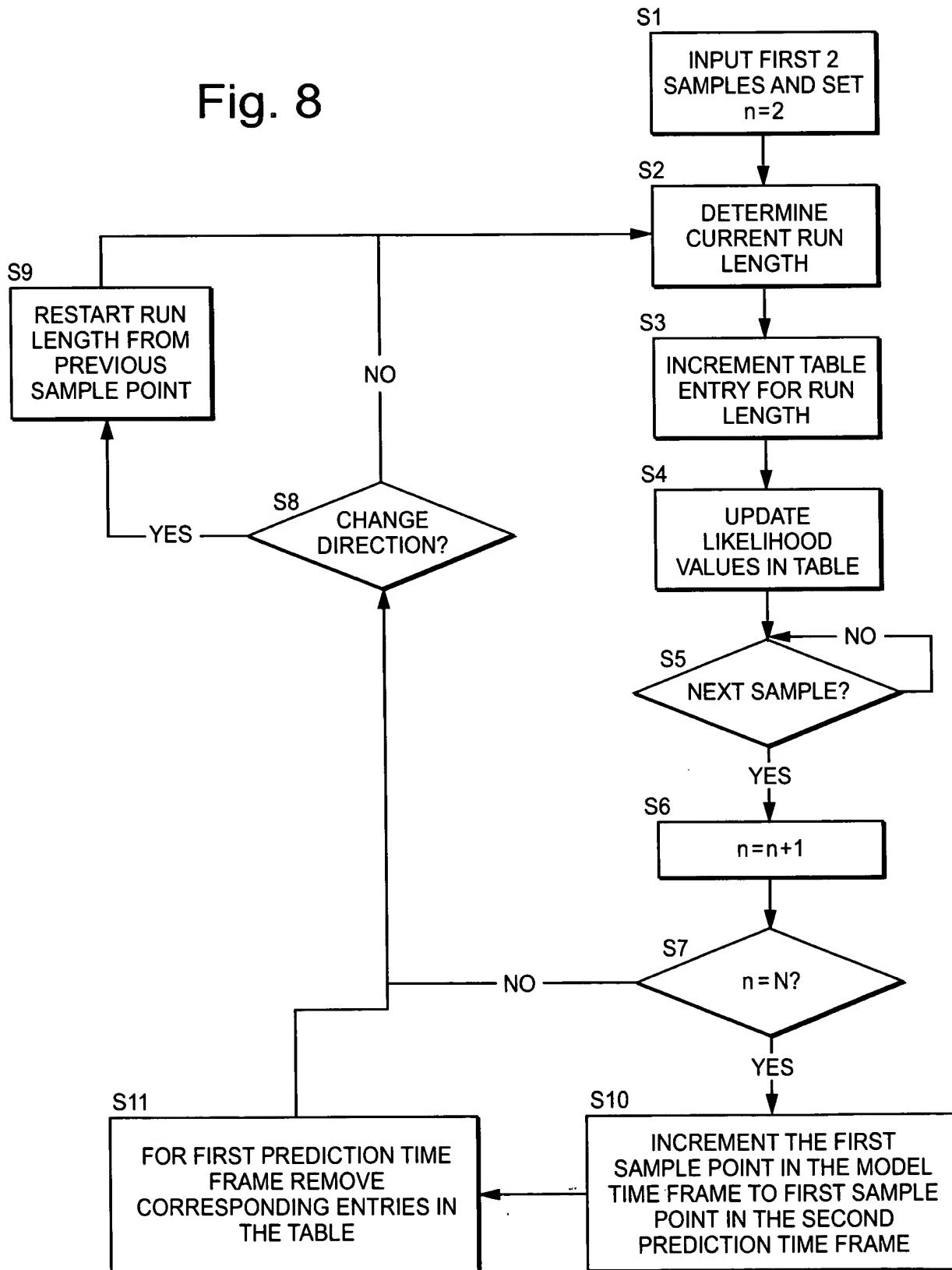


Fig. 7



Fig. 8





9/19

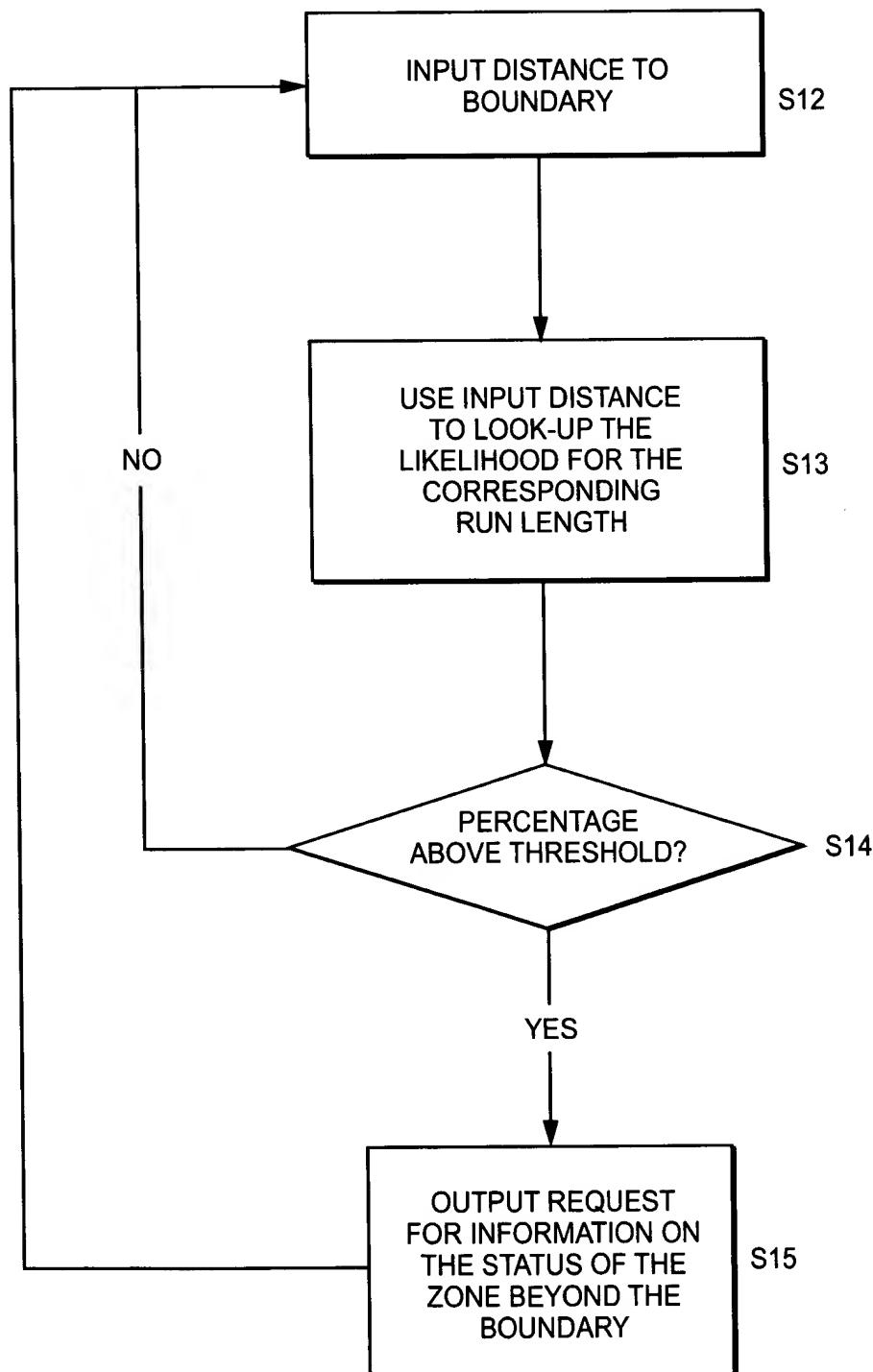


Fig. 9



10/19

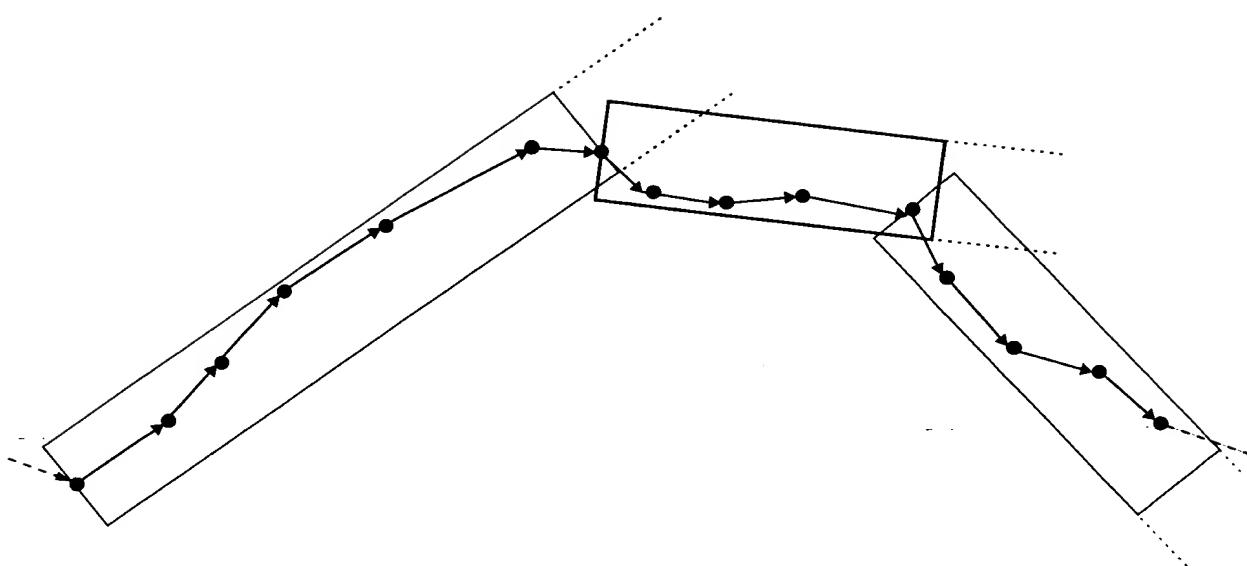


Fig. 10

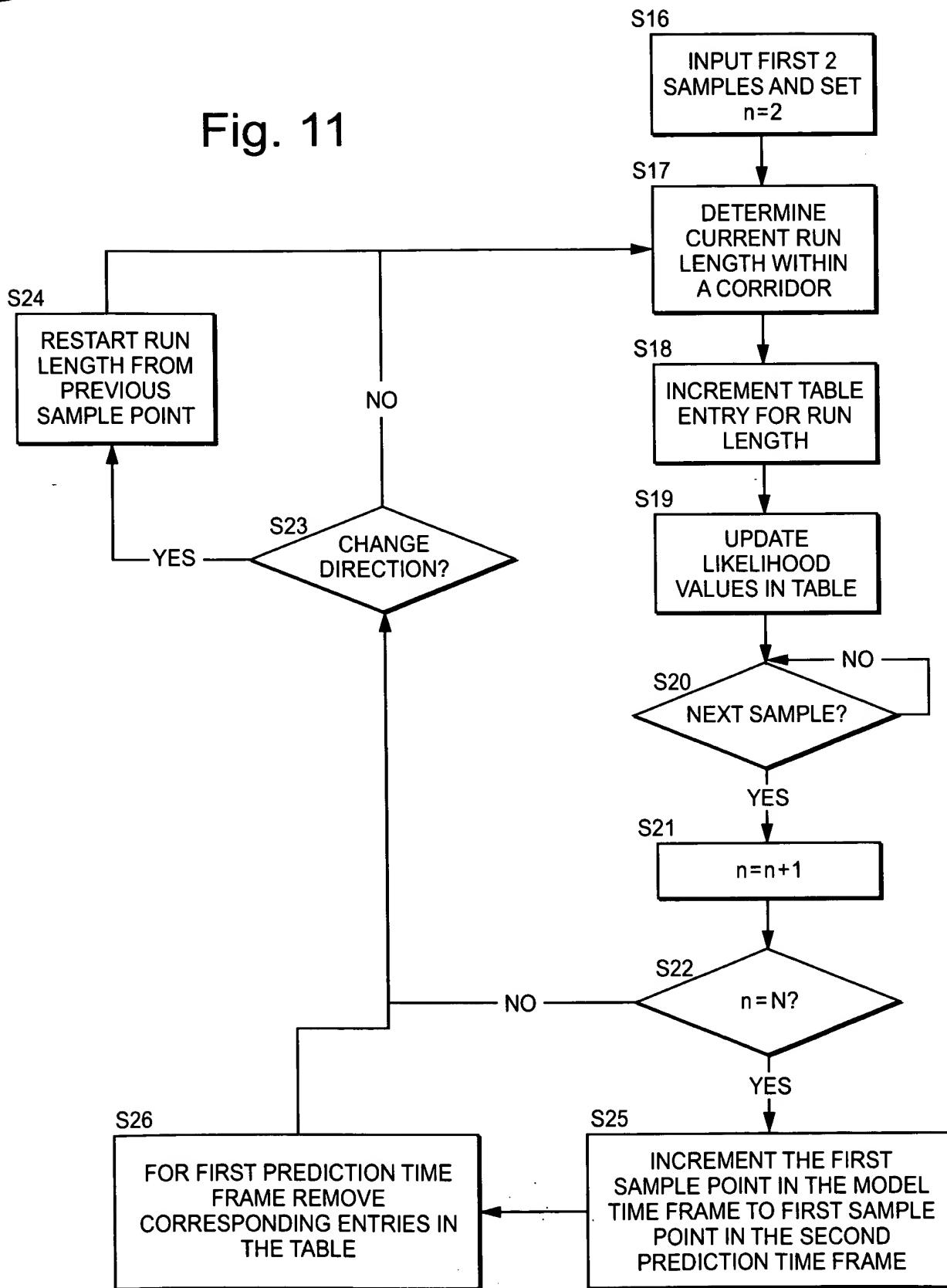
10/19

DETACHMENT POINT



11/19

Fig. 11





12/19

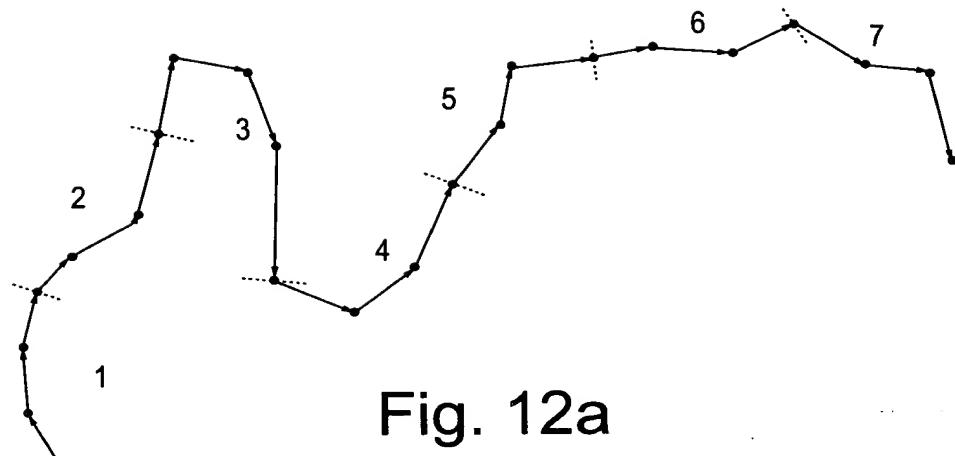


Fig. 12a

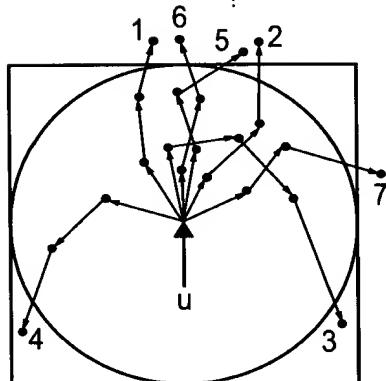


Fig. 12b

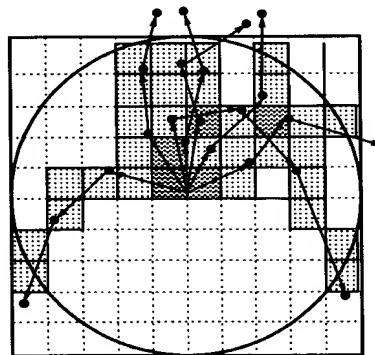


Fig. 12c

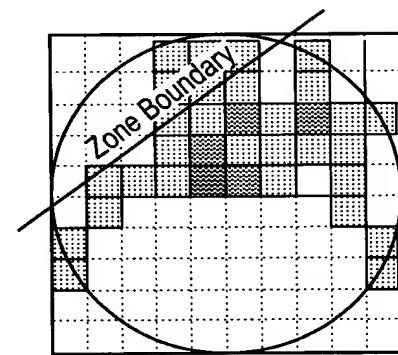
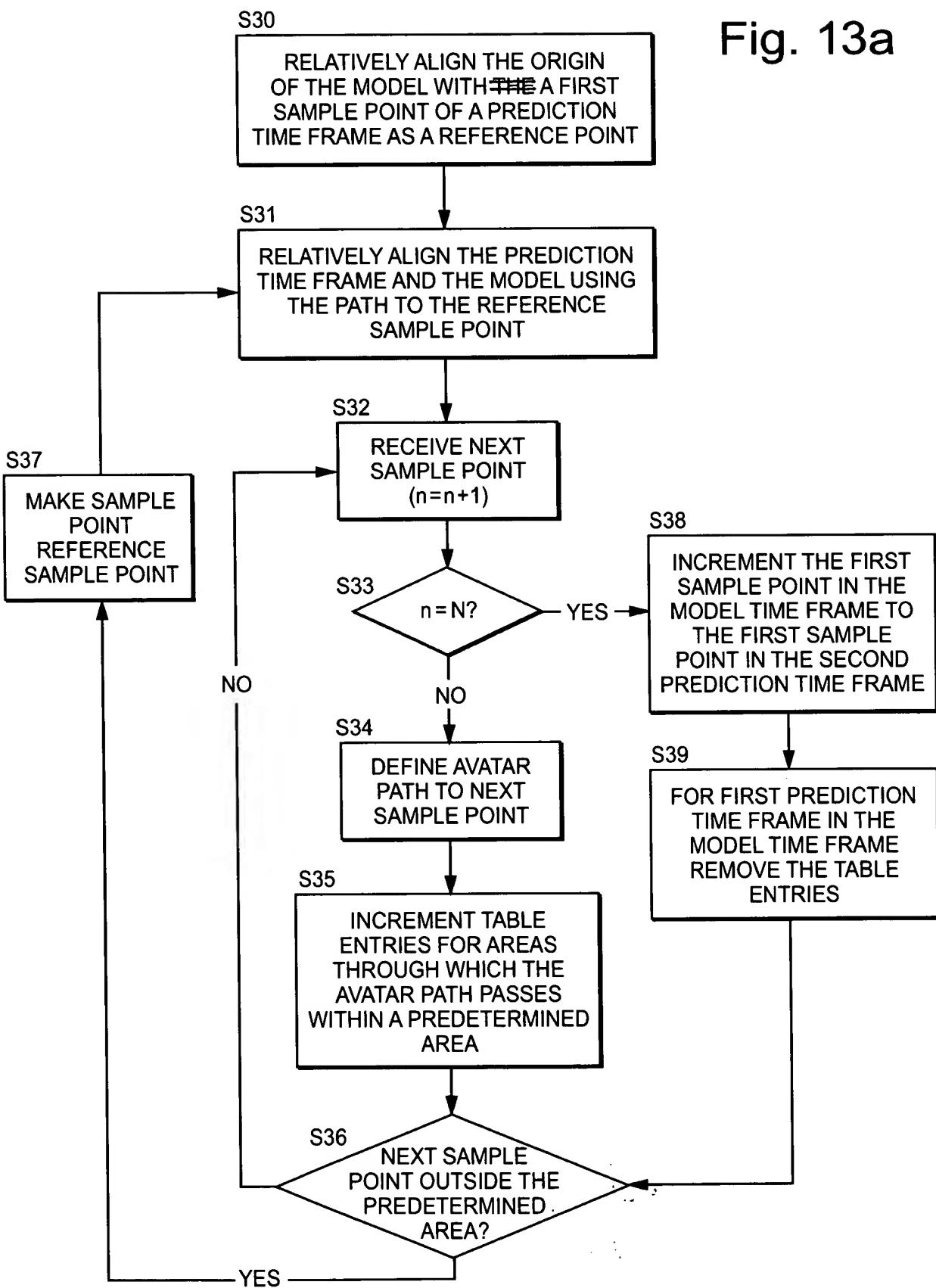


Fig. 12d



13/19

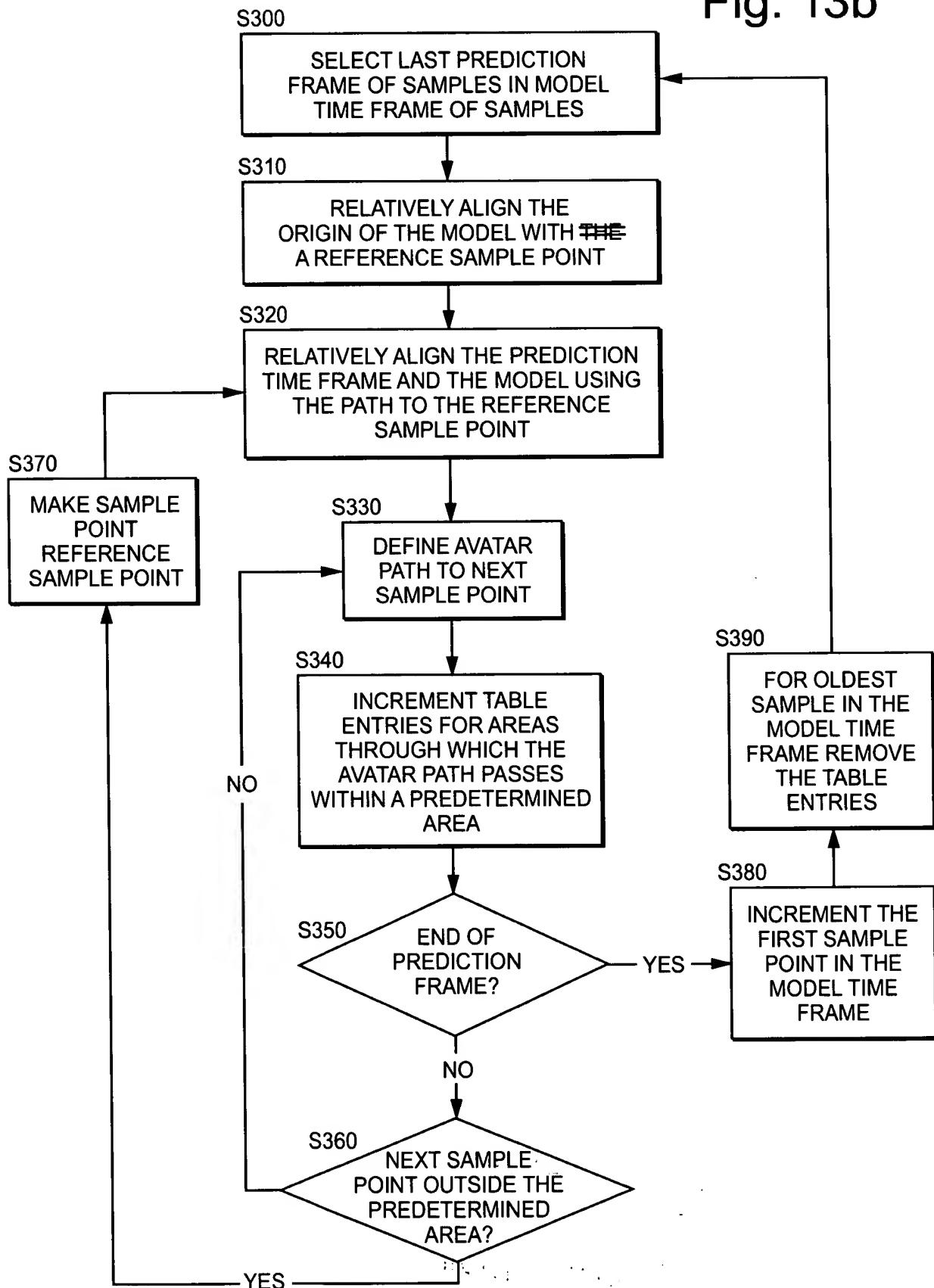
Fig. 13a





14/19

Fig. 13b





15/19

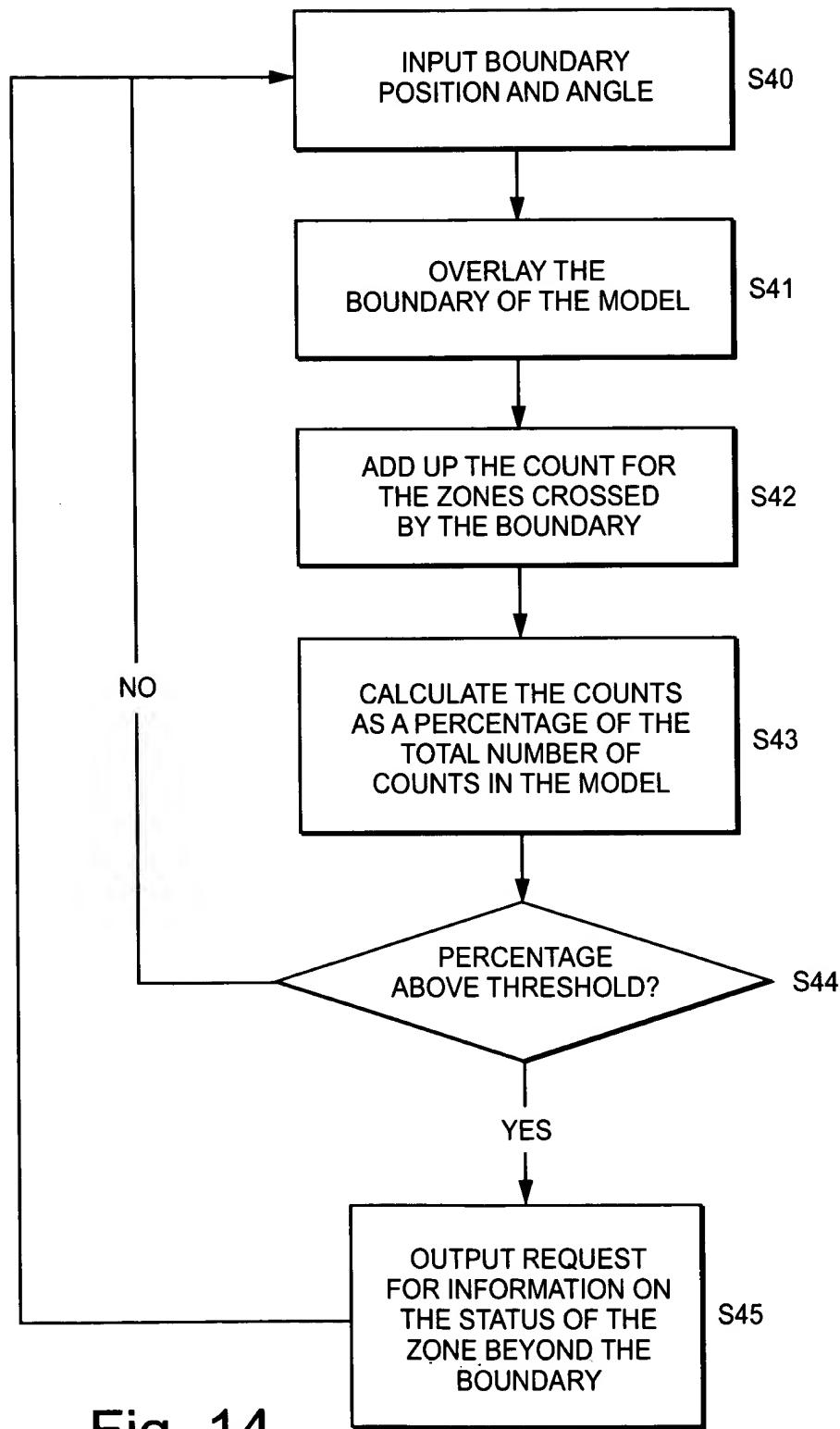


Fig. 14



16/19

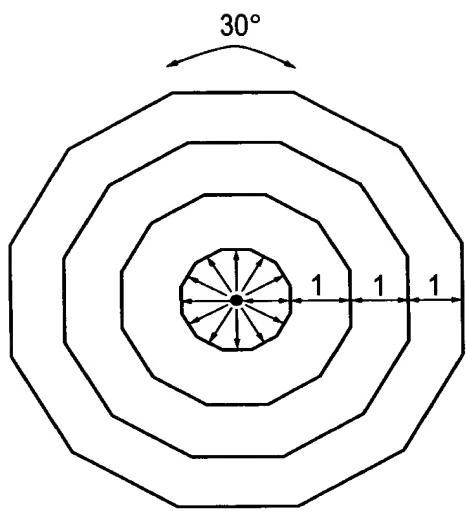


Fig. 15a

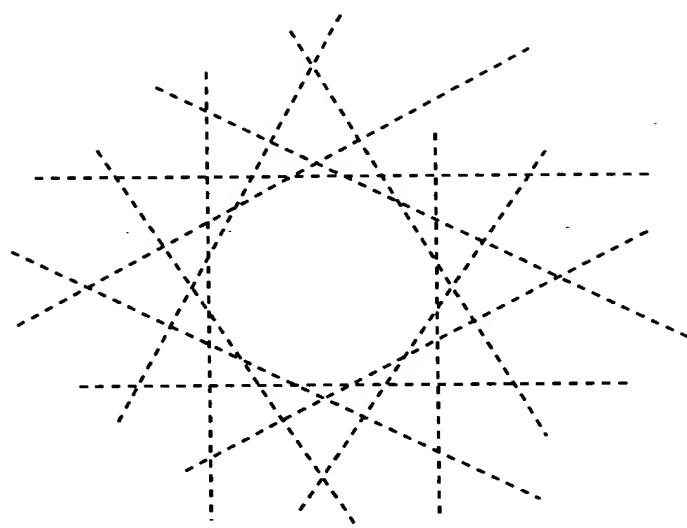


Fig. 15b

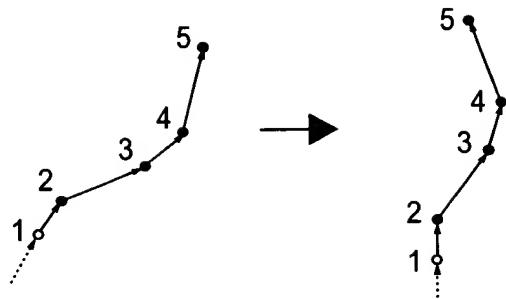


Fig. 16a

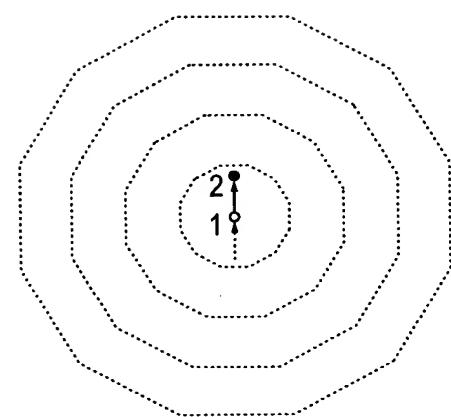


Fig. 16b

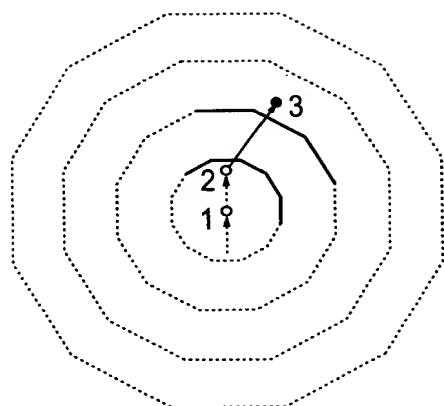


Fig. 16c

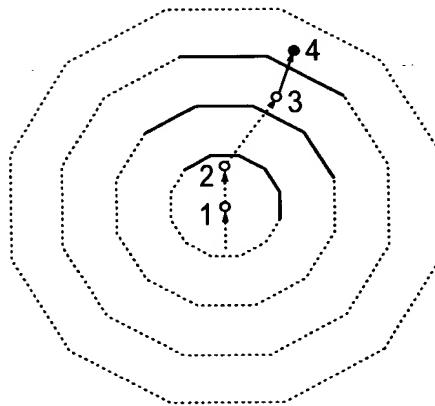


Fig. 16d

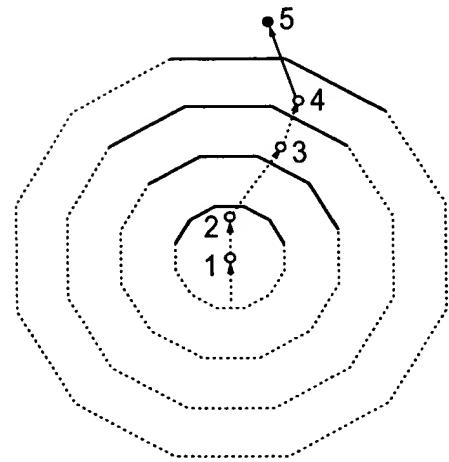


Fig. 16e

Boundary Segment not crossed

Boundary Segment crossed



18/19

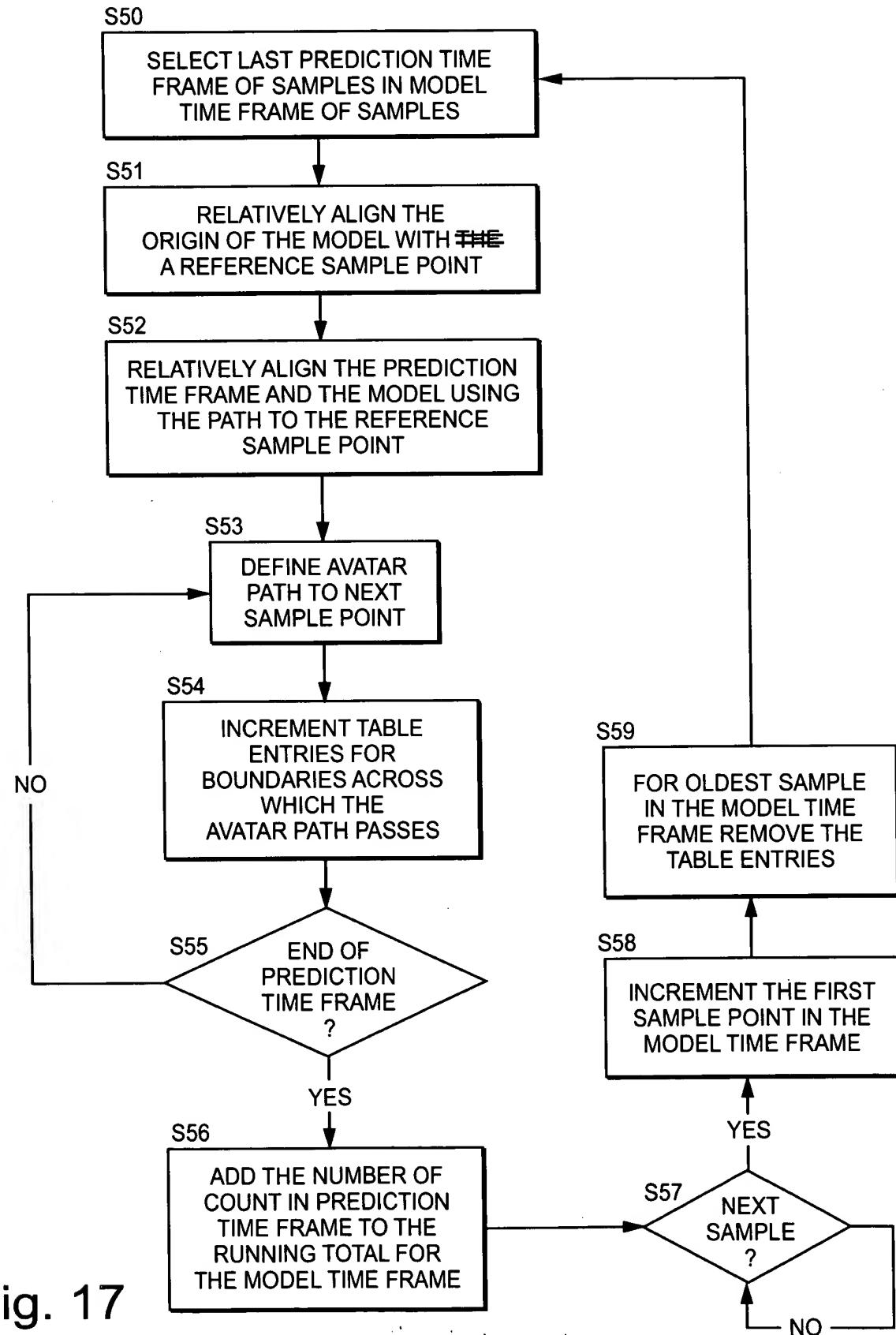


Fig. 17

19/19

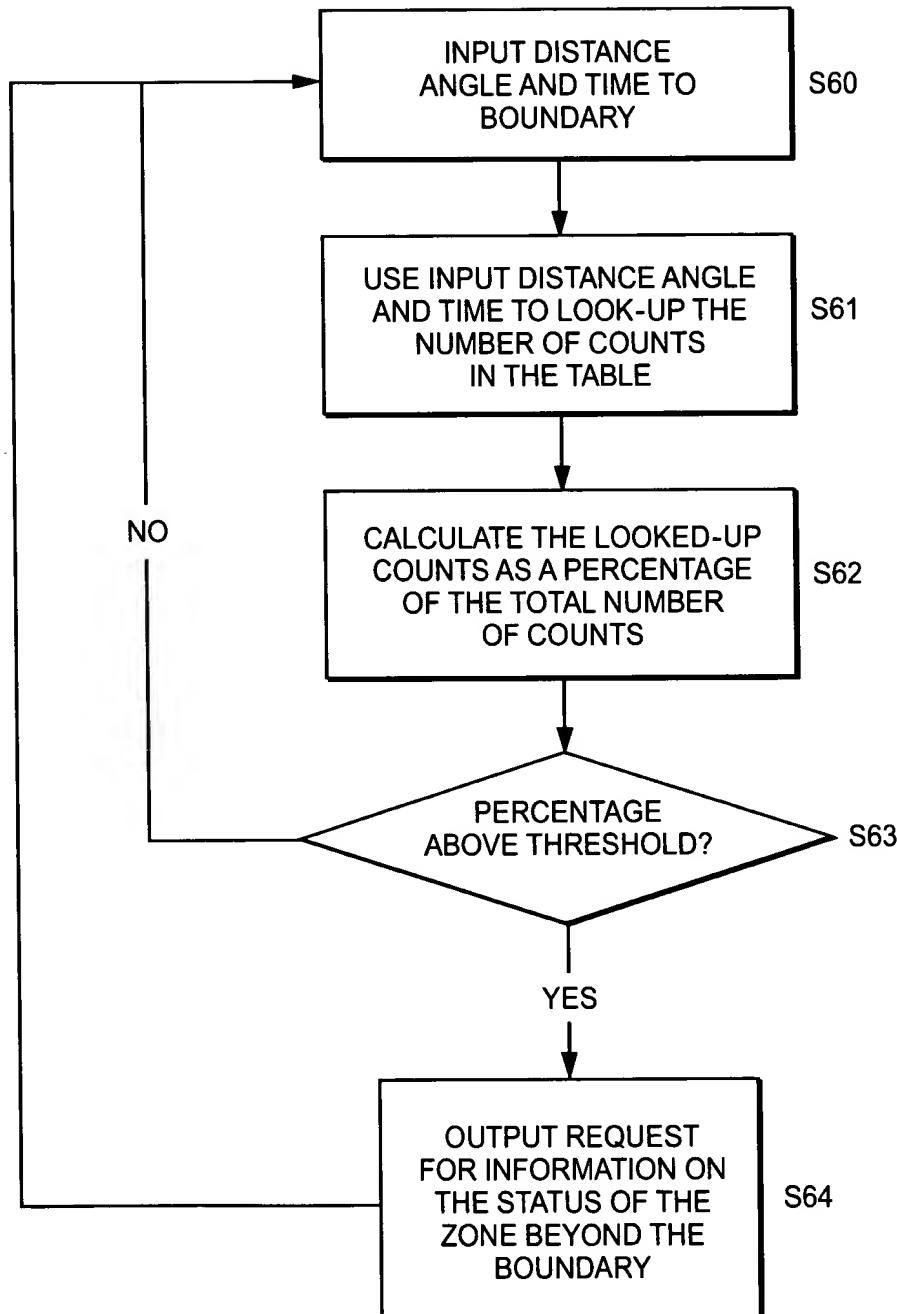


Fig. 18